

CLAIMS:

1. Method of generating Packet Arrival Timestamps (PAT) of a received real time sequence of information signal packets (TS packet) comprising A/V information, such as MPEG2 Transport Stream packets, the serial sequence comprising at intervals of multiple information signal packets, Program Clock Reference (PCR) information for locking a local System Time Counter (STC) with the Program Clock Reference (PCR) information, the method comprising

determining the packet arrival time of each packet using a packet arrival time counter derived from the local System Time Counter (STC) and

appending a corresponding Packet Arrival Timestamp (PAT) to received information signal packets, characterized by

setting the packet arrival time counter at an arbitrary value before receiving a first information signal packet,

temporally storing the Packet Arrival Timestamp (PAT) of the first information signal packet of the sequence and of the first information signal packet comprising Program Clock Reference (PCR) information,

determining the number of counts of the local System Time Clock Counter (STC) between said Packet Arrival Timestamps (PAT),

subtracting this number from the Program Clock Reference (PCR) value to retrieve a System Time Counter start value (STC-start)

2. Method according to claim 1, wherein the received information signal packets with the appended Packet Arrival Time Stamps (PAT) are stored on a recording medium, wherein, in addition the System Time Counter start value (STC-start) is stored as an attribute of the stored sequence.

3. Method of reproducing a stored real time sequence of information signal packets (TS) comprising A/V information, such as MPEG2 Transport Stream Packets, obtained with the method according to claim 1, the method comprising

running a packet arrival time counter derived from a local System Time Counter (STC),

locking the local System Time Counter (STC) to retrieved Program Clock Reference (PCR) information,

5 retrieving information signal packets and their corresponding Packet Arrival Timestamps (PAT) from a storage medium,

temporally storing a number of retrieved information signal packets,

outputting an information signal packet when the corresponding Packet Arrival Timestamp (PAT) coincides with the packet arrival time counter, characterised by,

10 retrieving the System Time Counter start value (STC-start) from the storage medium,

setting the System Time Counter (STC) with the retrieved System Time Counter start value (STC-start).

15 4. Method according to claim 3, characterised by, inserting Program Clock Reference (PCR) information corresponding to the System Time Counter start value (STC-start).

20 5. Method of reproducing two concatenated sequences of stored real time information signal packets (TS) comprising A/V information, the sequences obtained with the method according to claim 1, wherein a discontinuity in the Packet Arrival Timestamps (PAT) of the two sequences exists at a connection point, no overlap exists between Packet Arrival Timestamps of the two sequences and the decoded corresponding information signal packets are to be presented seamlessly, the method comprising

25 running a presentation time counter derived from a local System Time Counter (STC),

locking the local System Time Counter (STC) to retrieve Program Clock Reference (PCR) information corresponding to either the first or the second sequence,

retrieving packet information signal packets and their corresponding

30 Presentation Timestamps (PTS) from a storage medium,

temporally storing a number of retrieved signal information packets,

presenting an information signal packet when the corresponding Presentation Timestamp (PTS) coincides with the presentation time counter, the method further characterised by,

subtracting the System Time Counter start value (STC-start-2) of the second sequence from the value of the Presentation Timestamp (PTS) of the first information signal packet of the subsequent second sequence,

5 determine the instant the local System Time Counter (STC) should be set to the value of the System Time Counter start value (STC-start-2).

7. Apparatus for recording a real time sequence of information signal packets (TS packet) comprising A/V information, such as MPEG2 Transport Stream Packets, on a record carrier, the serial sequence comprising at intervals of multiple information signal packets, Program Clock Reference (PCR) information for locking a local System Time Counter (STC) with the Program Clock Reference (PCR) information, the apparatus comprising

15 receiving means for receiving the information signal packets, time stamp generating means for generating a time stamp corresponding to an arrival time of the information signal packets,

writing means for recording the generated time stamps and information signal packets on the record carrier, the time stamp generating means provided with a system time counter locked to the received program clock reference (PCR) information, the apparatus characterized in that,

20 the time stamp generating means are adapted to generate time stamps according to the method of claim 1.

8. Apparatus for reproducing a real time sequence of information signal packets (TS packet) comprising A/V information, such as MPEG2 Transport Stream Packets, recorded on a record carrier with the method according to claim 1, the apparatus comprising

25 reading means for reading the information signal packets recorded on the record carrier,

storing means for temporarily storing a number of information signal packets read from the record carrier,

30 time stamp generation means comprising a Packet Arrival Time counter derived from a local System Time Counter (STC),

comparator means for comparing a stored time stamp of an information signal packet with the generated Packet Arrival Time value,

outputting an information signal packet from the storing means when a Packet Arrival Time Counter value coincides with the corresponding time stamp, characterized in that,

the time stamp generating means are adapted to generate a Packet Arrival

5 Time according to the method of claim 3.

9. Method of storing a real time sequence of information signal packets comprising A/V information, such as MPEG 2 Transport Stream Packets, on a record carrier, the sequence comprising Program Clock Reference (PCR) information for locking a local
10 System Time Counter (STC), Presentation Time Stamp (PTS) information for determining the presentation time of the information comprised in the information signal packets, Decoding Time Stamp (DTS) information for determining the decoding time of the information comprised in the information signal packets, and Packet Identification (PID) mapping information, the method comprising adding mark points at specific entry points in
15 the sequence, such as I-frames in MPEG2, characterised by, storing in addition to a mark point one or more of the following information entities: Program Clock Reference (PCR) information, Presentation Time Stamp (PTS) information, Decoding Time Stamp (DTS) information, and Packet Identification (PID) mapping information.